

WeDo 2.0



education



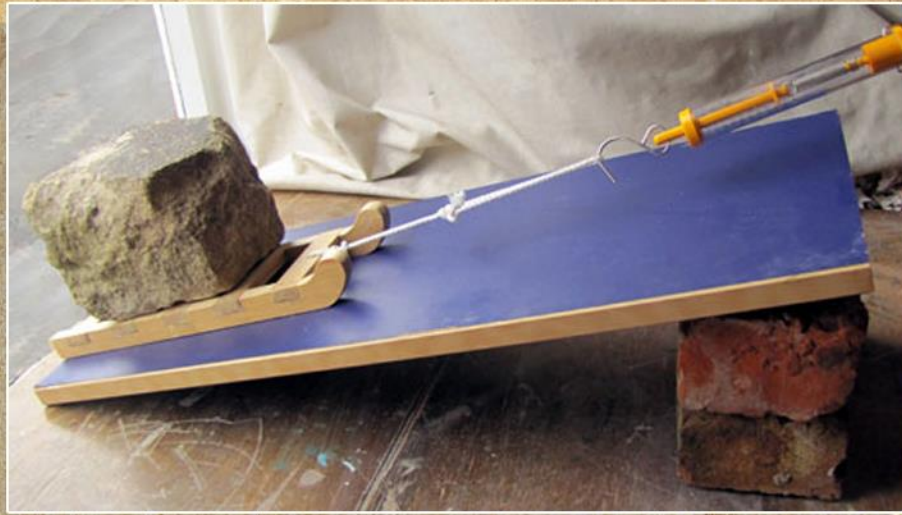
Lesson: Pulling Machine

Question...

How much can you pull using a rope?

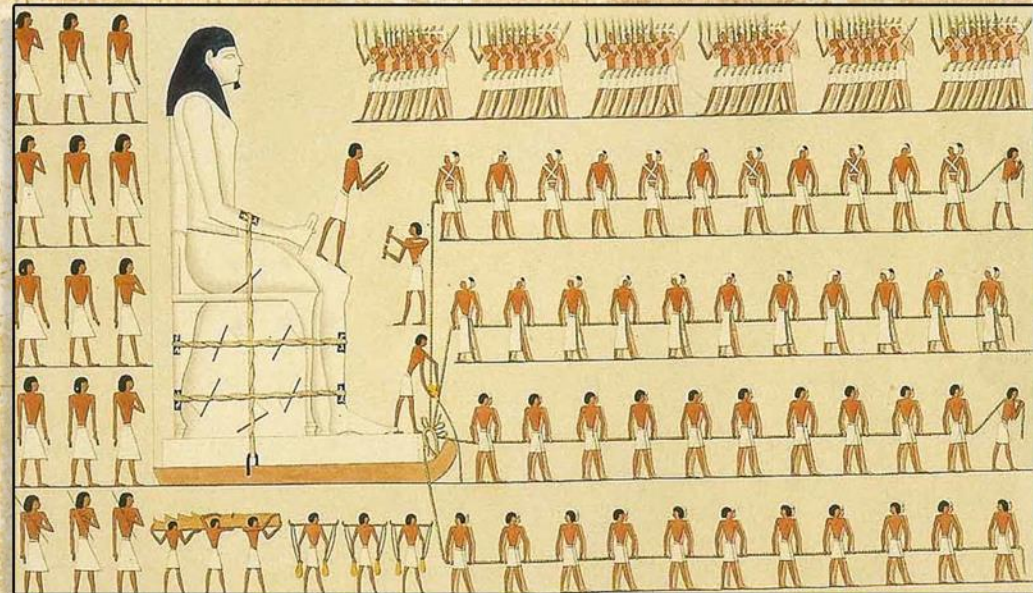
What do you think you can do to make pulling heavy objects easier?

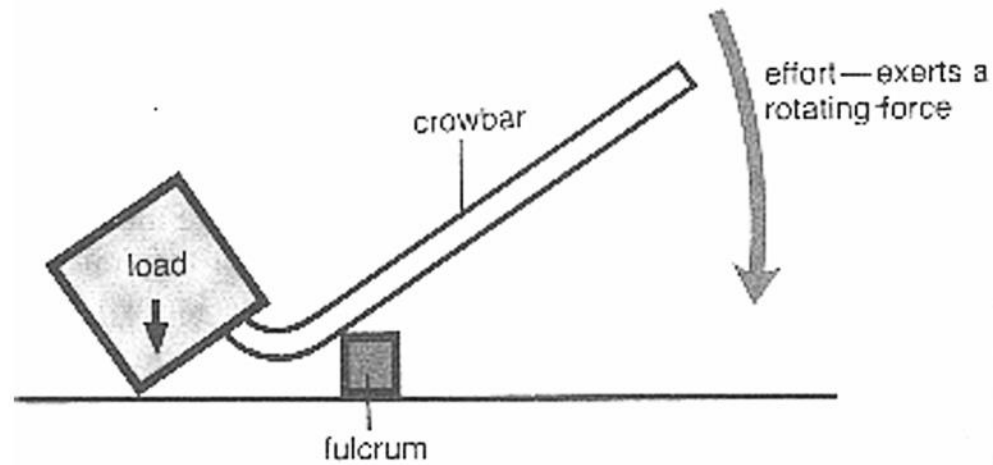




Another way to move a object is to place a sled underneath it and then pull it. Placing the object on top of a sled helps to create much less drag when pulling the object. Additionally, using a ramp will definately help for certain situations as well.

Here is a actual Egyptian hieroglyph that depicts the Egyptian works pulling a massive statue using a sled techinque. Do you see the sled that the statue is on top of? Do you also see the ropes that the workers are dragging/pulling with?





Here is an example of a simple lever machine that allows for you to move a heavy object by using a fulcrum, a pole and your own force. A heavy object is moved by using this simple leverage machine.



We all know that these are the ancient pyramids but have you ever wondered how the pyramids were made? Remember, they were created many thousands of years ago.

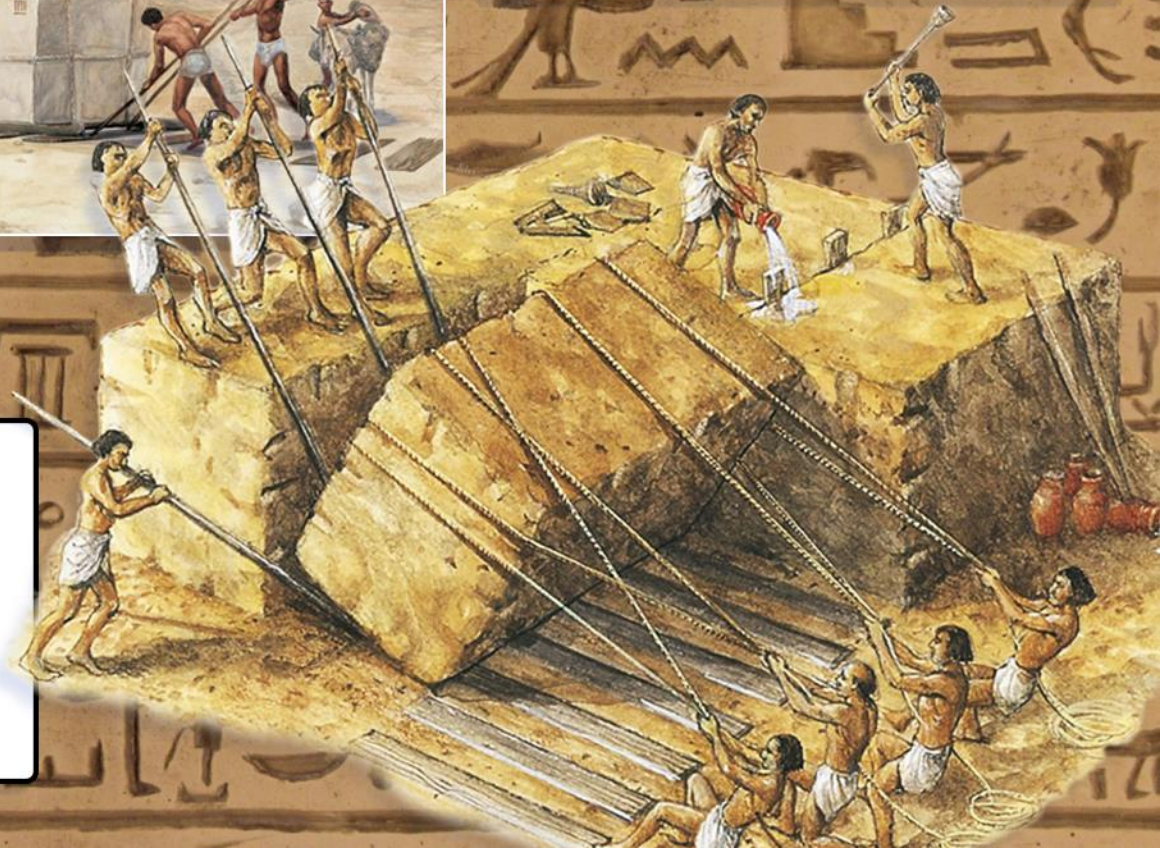
The Egyptians didn't have modern technology such as tall cranes or powerful trucks to move the stones.

The stones were 2.5 tons each and 2,300,000 of these stones were placed individually!



Believe it or not... but much of the techniques that we have discussed was used in the creation of the pyramids.
FACT: It took 20 years to create one pyramid!

As you can observe by the pictures, the pyramids were created using techniques in leverage along with pulling with a sled and rollers.





Wheels, in conjunction with axles, allow heavy objects to be moved easily allowing for movement or transportation while supporting a load, or performing labor in machines.

The invention of the wheel and axle was extremely important to human history. Can you guess why this is so?



This little boy with his toy cart looks very simple.. But the idea behind it allowed humans to pull very heavy objects using wheels and axles instead of just dragging things by sheer force.



Here are some great examples of animals being harnessed to drag and move very heavy objects. Do you notice some things about the pictures? Which picture do you think is the smartest and easiest way to transport heavy objects?



Wow! We learned so much about the history of moving massive objects! Now finally time to create our own moving machine! Meet the LEGO pulling robot!

